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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/643,524	08/22/2000	Jozsef Tokes	LD-11459	9669

7590 06/10/2002
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EXAMINER

ROY, SIKHA

ART UNIT PAPER NUMBER

2879

DATE MAILED: 06/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/643,524

Applicant(s)

TOKES ET AL.

Examiner

Sikha Roy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,705,883 to Soules et al. in view of U. S. Patent 4,374,340 to Bouwknecht et al.

Soules et al. disclose (column 4 lines 6-45 Fig.1) a low pressure discharge lamp having double helix configuration comprising a lamp base 90 and an envelope B containing a gas fill which is energized to a discharge state by applying electrical voltage, envelope connected to the lamp base, a phosphor coating provided on the internal wall. The envelope includes discharge tube sections formed into a double helix about a longitudinal axis 48 and fitted into each other as double-start thread. The discharge tube section has first portion closer to the lamp base having electrode assemblies 26,28 and sealed from the external environment and second portion farther off the lamp base. The tubes are bent radially inward from a pitch of the helix to provide resistance to pull-out forces imposed along the central axial direction.

Regarding claim 1, Soules et al. are silent about the sealing ends of the second end portion farther off the lamp base. Soules et al. do not disclose the second end portions extending next to each other spaced apart by a clearance and a passage formed between the second end portions and spaced apart by a distance from the sealing end portions.

Bouwknegt et al. in analogous art of low pressure discharge lamp disclose (column 3 lines 23-60 Fig. 1) a low pressure mercury vapor discharge lamp formed of two parallel coupled glass tubular portions 1 and 2 extending next to each other and separated by a clearance, with a passage (coupling tube 7) formed between the two end portions interconnecting the discharge sections and at such a distance from the remote ends 5 and 6 that adjacent these ends 5 and 6 regions 9 and 10 are created in the discharge vessel which have a relatively low temperature during operation. This is due to the fact that the discharge path does not reach these ends so that the heat radiation originating from the discharge between the electrodes 3 and 4 is relatively small in these portions. Bouwknegt et al. further disclose that because of this configuration the mercury vapor pressure remains during operation at the value which is optimum value for the conversion of applied power into UV radiation yielding maximum efficacy of the lamp (column 3 lines 54-57).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the second end portion of the helically wound discharge tube section of Soules et al. by two end portions having gas-tight sealing, extending next to each other spaced apart by a distance and having a passage formed between the two

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second end portions interconnecting the discharge sections and spaced apart from the sealing ends as suggested by Bouwknecht et al. These two sealing ends define the cold spots which provide the benefit of controlling mercury vapor pressure at the optimum value and thus yielding maximum efficacy of the lamp.

Referring to claim 2, Figs 3 and 6 disclose the helically wound two tube sections are bent inwards diametrically opposite to each other and hence it would have been obvious to one of ordinary skill in the art at the time of invention to modify the two second end portions to be bent inwards diametrically opposite to each other.

Regarding claims 3 and 4 the examiner notes that Soules et al. in view of Bouwknecht et al. disclose the discharge lamp with a passage formed between the two second end portions but the method of forming the passage is not germane to the issue of patentability of the discharge lamp itself. Therefore these recitations have not been given patentable weight.

Regarding claim 5 Bouwknecht et al. disclose the second end sections include straight tube sections 9 and 10 (see Fig.1) and the passage is formed between the straight tube sections.

Regarding claim 6 Soules et al. in view of Bouwknecht et al. disclose the claimed invention except for each second end portion being approximately hemispherical. It would have been obvious matter of design choice to modify the end portion hemispherical since applicant has not disclosed that the hemispherical ends would solve any problem or is for any particular purpose and it appears that the invention would perform equally well with straight second ends of the discharge tubes.

Regarding claim 7 Bouwknecht et al. disclose (column 3 lines 44-46 Fig.1) that the passage (coupling tube) 7 has an axis 8 and the distance between the axis and tip of the sealing of the second end portions 5,6 is between one and four times the diameter of the discharge tubes.

Referring to claim 8, Soules et al. disclose (column 5 lines 34-51) the lamp base is provided with a threaded socket 94 suitable for connecting the lamp and a ballast circuit is located therein.

Regarding claim 9 Soules et al. disclose a plug-in lamp configuration with pin type connections 100,104 (see Fig.6) for connecting the lamp electrically to a ballast circuit formed as a separate component.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art references are cited to further show the state of the art with respect to low-pressure mercury vapor discharge lamps.

U. S. Patent 5,055,738 to Yorifuji et al.

U. S. Patent 5,675,215 to Watson et al.

U. S. Patent 6,054,806 to Holzer

U. S. Patent 6,064,155 to Maya et al.

U. S. Patent 4,648,850 to Lima et al. disclose the method of manufacturing common passageway in an arc lamp.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879



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